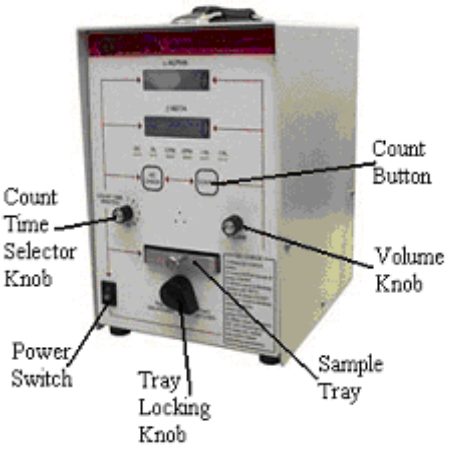
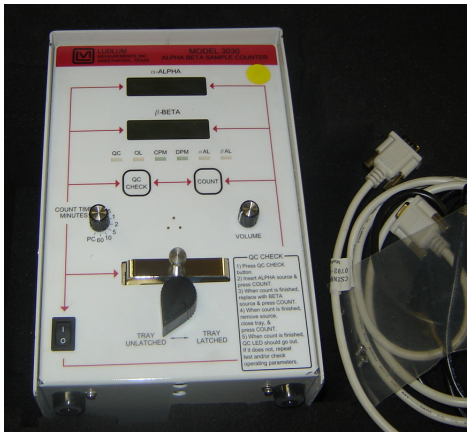
Ludlum Model 3030

GENERAL INFORMATION

Equipment Name:	Alpha-Beta Sample Counter
Model:	3030
Manufacturer:	Ludlum Measurements, Inc.
National Manufacturer Contact:	Telephone: 800-622-0828 (toll-free); 325-235-5494 (office); 325-235-4672 (FAX) E-mail: ludlum@ludlums.com Website: http://www.ludlums.com





NOTE: Guides are to be used by trained personnel only and DO NOT replace the manufacturer's operations or technical manuals. These guides were developed by field personnel for utilization by EPA and their contractors and are helpful in quick start-up and operations. Various limitations have been identified through the experience of the development group. Different makes, models, and updates to this equipment may change the limit-ations. It is recommended that calibration, maintenance, and use be recorded in a logbook. Additional product information may be found in the accompanying Equipment Operating Guide.

SPECIFICATIONS

Uses:	To perform simultaneous α and β radiation measurement on air, filter, and wipe samples. Advanced sample tracking and analysis methods when used in conjunction with integrated computer software (see instrument manual for more information).
Limitations:	The instrument can accept a maximum sample size of 2 inches in diameter by 0.4 inch thick. The instrument does not detect gamma radiation. A PC interface is necessary in order to access the advanced functions of the instrument.
Response Range:	0 - 999999 Counts per Minute (CPM) or Disintegrations per Minute (DPM) for both α and β.
Alarm Level:	Adjustable alarm levels for both α and β counts. Constant tone and illuminated alarm light for both α and β. Audible beep frequency relative to the rate of incoming pulses above background when VOLUME is turned up.
Product Safety:	Not intrinsically safe.
Battery:	AC is primary power. Internal trickle-charged battery with an approximate life of 8 hours.
Calibration:	Calibration performed annually by manufacturer. Prior to use the user should verify the calibration and service sheets are present and/or readily available. The user should not use the unit if the calibration is out of date, not available, or is unknown.

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QUICK START GUIDE

Prior to Starting:	1.	Visually inspect unit, wires, and accessories. Make sure all accessories are present and serviceable before attempting to use. If the unit appears to be damaged, do not attempt to use. Damaged unit may not provide accurate results. Ensure the unit is plugged into a power source or that the batteries are sufficiently charged.
	2.	Plug unit into electrical outlet. Set the COUNT TIME to 1 MINUTE on the Count Time Selector Knob. Ensure the VOLUME is turned up to an audible level.
	3.	Install Ludlum software package on PC. Connect cables to PC. Check the instrument's battery level. If the instruments operating parameters have not been set, the red QC LED will illuminate, and an initial quality control (QC) check must be performed.
Turn On:	1.	Push the power switch to the ON position.
	2.	Press and release the QC button. Insert alpha source and press the count button. When count is finished, replace the alpha source with a beta source. Close and lock the tray, then press the count button. When count is complete remove the source from the tray assembly. Close and secure the tray, then press count. If the unit is functioning properly the QC LED will go out. Unit is now ready. If the QC LED remains on, repeat the process and check operating parameters. The unit CPM or DPM LED will remain green.
Start-up Performance Check: Using Computer interface	1.	Click on "Normal QC" in tab marked "QC Settings" click on "Reload Last Values".
	2.	Enter "Standard Alpha Efficiency", "Standard Beta Efficiency" from sources, click "Update".
	3.	Enter values for "Allowable QC Efficiency", click "Update".
	4.	Enter "Alpha Source Size", "Update".
	5.	Enter "Upper & Lower Background Limits", "Update". Disconnect PC from instrument.
	6.	Press "QC Check" insert alpha calibration sources, and press "Count", repeat for beta.
	7.	The instrument is now ready for use. Select the count time and statistical accuracy based on field monitoring with a Model 12. Rotate the sample tray, knob, open and insert sample. Adjust volume. Press "Count", results in CPM or DPM.
Sample Counting:	1.	Insert the sample into the Sample Tray, close the tray and LATCH the Tray Locking Knob.
	2.	Press the COUNT Button and wait the required count time. If the red αAL LED illuminates, the sample has exceeded the alarm threshold for α radiation and if the red βAL LED illuminates, the β radiation alarm threshold has been exceeded. If the red OL LED illuminates, the sample is too radioactive and has overloaded the detector. Dilute the sample or reduce the sample volume.
	3.	Record the counts shown in the α-ALPHA and β-BETA display windows.
	4.	Rotate the Tray Locking Knob to UNLATCHED position and remove the sample. Store sample in proper storage container until the sample can be properly shipped and/or disposed of.
	5.	Decontaminate the tray with a DI moistened KimWipe, throw wipe in a marked "Radioactive Waste" container. Close the Sample Tray, rotate the Tray Locking Knob to LATCHED and press the COUNT Button. The unit should register no activity above background levels. If the Sample Tray is still contaminated, repeat this process until background activity is achieved.
Turn Off:	1.	Push the power switch to the OFF position.